

**REMARKS**

Claim 27 has been amended to correct an improper dependency. Reconsideration of the 35 U.S.C. § 103(a) rejections of the claims of the present application as set forth in the Action of March 16, 2004, is respectfully requested. Each of the rejections relies on Miyamoto et al., U.S. Patent No. 3,674,621 ("Miyamoto"), as the primary reference and, it is believed, Sunden et al., U.S. Patent No. 4,710,270 ("Sunden"), as a secondary reference<sup>1</sup>. Miyamoto is cited as disclosing "forming a fiber suspension, adding CMC having a D.S. of 0.3 (column 4, line 17) and a degree of polymerization of 2000 (column 3, line 69) to modify the properties of the fibers and drying the fiber material, e.g. paper machine to make a paper." (Action, page 2, lines 1-3 of the paragraph which begins: "MIYAMOTO et al"). The position of the Office is that it would be obvious to add the CMC of Miyamoto under alkaline conditions. (Action, lines 4-5, of the paragraph which begins: "MIYAMOTO et al").

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<sup>1</sup>The Action identifies "ASHTON et al" as the newly cited secondary reference. However, only Miyamoto and Sunden are identified in USPTO-892 and Col. 3, lines 30-31, of Sunden describes that "pH is not important and may vary between 5 and 9". This is the teaching that is identified as being in Col. 3, lines 30-31, of Ashton et al.

Applicants respectfully submit that the proposed modification of Miyamoto et al. will not result in the method of producing a modified fiber product selected from printing paper and packaging material of the present invention and that, therefore, the 35 U.S.C. § 103(a) rejections are not proper and should be removed.

The crux of the present invention, as recited in claim 1, is to dissolve CMC, having a DS of 0.1 to 0.4 and a DP of 600 to 5000, at alkaline conditions and to mix the obtained solution with cellulosic fibers at alkaline conditions in order to produce printing paper or packaging paper.

Miyamoto relates to synthetic papers which are produced from polyolefin or polyester fibers using a binder (PVA = polyvinyl alcohol), which is soluble in hot water. The paper is characterized as being "fabric like" (column 2, line 57) - which means that it is significantly different from the printing papers or packaging papers of the present invention. The synthetic fibers of Miyamoto differ in one extremely important aspect from the cellulosic fibers of the present invention: they are HYDROPHOBIC whereas cellulosic fibers are HYDROPHILIC. Because the known synthetic fibers are too hydrophobic for them to be bonded together purely with PVA, a thermoplastic resin (having a lower melting

point than the fibers) and CMC are added. This is a manufacturing process which is very far from conventional paper manufacture, in which hydrogen bonding between the cellulosic fibers is primarily used for bonding the fibers together. The synthetic fibers of Miyamoto likely repel each other and they need a glue to be joined together.

For each of the above reasons, the proposed modification of the process of Miyamoto will not result in the method claimed in the present application and will not support a case of *prima facie* obviousness under 35 U.S.C. § 103(a).

Moreover, Miyamoto leads away from the method of the present invention.

In the present invention the strength properties of the web are improved by the use of CMC. However, Miyamoto makes it quite clear that in the process disclosed therein, CMC cannot be used to improve the strength properties of the paper. Miyamoto discloses:

"On the contrary, the present invention makes a great feature of utilizing CMC together with a hot water soluble fiber binder, that is based on the fact that, in case CMC is added alone to a hydrophobic fiber such as polyolefin and polyester fiber, it cannot achieve any effect as a binder, but, in case of using both the two together, a synergistic effect can be gained" (column 4, lines 48 to 54) (emphasis added).

Thus, Miyamoto teaches away from using CMC -as such- for increasing the strength of a paper. Miyamoto, in fact, teaches that CMC cannot be added to their paper alone, because it does not help at all. Miyamoto thus fails to provide any motivation to use CMC as such for making any kind of paper under any conditions, not to mention a quite different kind of paper.

For this reason also removal of the 35 U.S.C. § 103(a) rejections and the issuance of a notice of allowability are in order and are respectfully solicited.

The foregoing is believed to be a complete and proper response to the Office Action dated March 16, 2004, and is believed to place this application in condition for allowance. If, however, minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

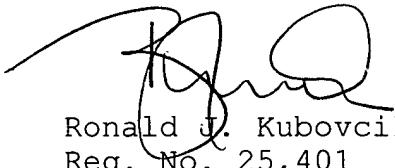
In the event that this paper is not considered to be timely filed, applicant hereby petitions for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

PATENT APPLN. NO. 09/674,289  
RESPONSE UNDER 37 C.F.R. § 1.116

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In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,  
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